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Harvesting Tomorrow's Fuel

By Dianne Whitacre Straley

Catawba County recently harvested a field of rapeseed, used to make canola oil.

If a landfill could have a motto, Catawba County's Blackburn Landfill's would be, "Much of our trash is too good to waste."

That 800-acre site off Rocky Ford Road is evolving from a place to simply bury refuse to a complex where one company's castoffs become raw material for an adjoining firm. And where methane gas from decaying garbage generates electrical power.

What will be developed over the next decade promises to make even smarter use of our throwaways.

Look for more businesses to open around the landfill, all of them tapping into the trash-to-energy that the complex will generate. Big energy users – a specialty brick manufacturer and two greenhouse operations – have had lengthy discussions with county staffers about building nearby.

The county will grow oil rich sunflowers and rapeseed near the landfill to produce a significant part of the 650 gallons of fuel that Blackburn needs daily to run earthmovers and other heavy operating equipment.

Appalachian State University will test crops grown in Catawba County and may introduce new ones that are best suited for biodiesel production. The university will perform its research and produce biodiesel fuel for the county in a 5,000-square-foot building that workers will begin constructing this fall at the landfill.

The Catawba County commissioners are expected to vote on a contract with the university on July 21, said Barry Edwards, county utilities and engineering director.

ASU's biodiesel research facility will test the fuel-production possibilities of rapeseed, sunflower, switch grass, soybean and algae. It should begin fuel production next summer – from plants that farmers will grow on county landfill property and nearby farms.

Catawba County started planning for the Blackburn EcoComplex and Resource Recovery Facility in 1995. The dream should be complete in eight to 10 years, Edwards said, with the addition of two major components planned by the county.

A new boiler called the Bio-energy Facility will create steam, using wood waste as fuel. That steam energy will be used to dry food, grease and agricultural waste, lumber, pallets, clay products and waste material from wastewater treatment plants, schools, hospitals, businesses and farms.

The EcoComplex aims to reduce the amount of waste being buried in the landfill and to get better use out of the 650 tons of waste that is trucked in daily. Part of the strategy is encouraging industries to build nearby that can use each other's waste or energy from the landfill.

One three-way arrangement is already there. A lumber producer, Gregory Wood Products, provides the bark, shavings and sawdust that will be used to fuel the new boiler. Other wood scraps go to its landfill neighbor, Pallet One.

Ash from the boiler operation will be mixed with the dried sludge and yard waste, composted, and then bagged and sold to gardeners – and the on-site greenhouses.

The earthy material will be safe to use because the digestion and high-temperature drying processes removes pathogens, said Jack Chandler, public service administrator in the county's utilities and engineering department.

The boiler should be in operation in fall 2010, and then the following year, Catawba County, Hickory and Conover can start drying wastewater treatment plant sludge.

The digester and sludge processing plant are estimated to cost $24 million to $30 million, and design work is about 30 percent complete. Money for construction will come from solid-waster management, utility fees and other revenues the EcoComplex brings in.